

Name The Tech.  
Subject Vol. 23, No. 13. Year \_\_\_\_\_  
Date Jan. 7<sup>th</sup> '04

Is this a ~~condition~~ examination, or an examination for  
advanced standing? \_\_\_\_\_

If a condition examination, when did you take the sub-  
ject in class, and with what instructor? \_\_\_\_\_

What preparation have you made for this examination?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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appointments for sittings right away.  
This is necessary, as the class elected  
their committee about a month later  
than last year. Respectfully,

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# THE TECH

VOL. XXIII.

BOSTON, JANUARY 7, 1904.

NO. 13.

## THE TECH

Published every Thursday, during the college year, by students of the Massachusetts Institute of Technology.

LEONARD T. BUSHNELL, 1905, *Editor-in-Chief*.  
C. T. BARTLETT, 1906, *Acting Managing Editor*.  
H. EVERETT DARLING, 1906, *Secretary*.  
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OFFICE: 30 ROGERS, 491 BOYLSTON STREET.

Editor-in-Chief . . . . . Daily, 8.30-9 A.M.  
Business Manager . . . . . Monday, 12-1 P.M.

*For the benefit of students THE TECH will be pleased to answer all questions and obtain all possible information pertaining to any department of the College.*

*Contributions are requested from all undergraduates, alumni, and officers of instruction. No anonymous manuscript can be accepted.*

*All communications regarding subscriptions should be addressed to the Business Manager.*

Subscription, \$1.00 per year, in advance. Single copies, 5 cts.

Entered in Post-office, Boston, Mass., as Second-class Matter.

Puritan Press, Boston.

"**T**O-DAY is issued the first number of our paper, and although we tremble at the thought of the work before us we begin it gladly. We believe that the same public spirit that founded THE TECH will sustain it to the end.

"The Institute has never been rich in papers. Only one, we believe, has ever been published: Some years ago the *Spectrum* shone for a time, but soon faded away. Still later an attempt was made to establish another paper, but in vain; the first number never appeared.

"And now comes THE TECH asking its share of favor. Even as its predecessor, it attempts great things. It will be its aim to promote the interests of the students of the Institute and maintain a friendly spirit among them, breaking down the ancient barriers of class and department. . . . It will open an avenue for the expression of public opinion, and will aim, in every possible way, to help all in the development of their young manhood. . . .

"We cannot look far into the future. We cannot tell what buds of genius may be unfolded in these columns. But even if genius does not bloom; even if the beauties of rhetoric and poetry are not developed here; even if this paper becomes, like the school it represents, only a field for plain, honest work—we shall nevertheless be sure that the efforts we make are stepping stones to further attainments, helping us all to the higher and nobler uses of our lives."

Thus the editor in Volume I., Number 1.

The least of our present troubles is unfolding buds of genius and developing the beauties of rhetoric and poetry, but in the main our aims are the same as those expressed in the first TECH issued.

It is the object of every TECH board to get out a paper that shall agree with each man's conception of what THE TECH should be, as it were each individual's fancy integrated between 0 and 1,600, and any failure so to do should be ascribed to errors in the mathematical work.

Various changes have been made in THE TECH during the past year with a view toward making it appeal more to the average man;

the Alumni Notes have been discontinued as the *Technology Review* covers that field far more thoroughly than was possible for us; the office of Managing Editor was created in place of Assistant Editor-in-Chief, and the paper has benefited by having one man in charge of the routine work; a new department, The Week, has been started, and we feel sure it is appreciated by our readers; and The Lounger is in great danger of passing out into the night and becoming merely a memory. We confess that we do not think THE TECH is any the worse for lack of a Lounger, but it remains with the subscribers and non-subscribing readers to demand a Lounger if they wish that feature retained. So much for the past. In the future THE TECH will try to keep abreast of our growing college life aiding its development in every way possible; it will aim to keep track of everything that Tech undergraduates are doing and if it fails no one will be so sorry as the editors. Each week the object will be to publish all the news it is possible to collect and in addition some article of general interest. We feel sure that the body of the paper will be as good as any of the past numbers and our ambition is to make it the equal of any college paper, but about the editorial page we are not so confident. We feel that we are or should be the voice of the student body and shall endeavor to make the student body have the same feeling; whatever is unworthy of Institute men we will oppose and everything that tends to make more friendly the relations between the Faculty and the students will be supported with all our might. We do not expect to reach the acme of perfection; we do not hope to realize the ideal of a college paper; but we do intend with your support to publish a paper not unworthy of old M. I. T.

**T**HIS week's issue has been delayed, at the last minute, by the necessity of waiting for the corrected proof of the

examination schedule, but it was felt that the schedule was one of the most important features. We regret that the delay prevented us from advertising properly the Indoor Meet, as we had intended to do.

#### THE HONOR SYSTEM.

**T**HE Senior Class has definitely decided to abandon the attempt to secure a trial of the honor system in examinations. The reason given is that at present the system cannot be put into practical operation without the hearty co-operation of the entire class, and as a great many men do not approve of its introduction, it has seemed best to lay it aside for the present. Doubtless on some future occasion it may seem best to request for its introduction, under changed conditions, or when there is a very general approval of the plan, but at present the sentiment in both Senior and Sophomore Classes, where votes have been taken, is very evidently opposed to its adoption.

#### NONE BUT THE BEST!

**T**HE Hockey Association having found that its financial condition will not warrant the expense of building and running a rink has wisely decided not to send out a Tech Hockey Team this year. This is a step in the right direction; if the men of the Institute do not wish to contribute to the support of a team it is far better for that team to disband or, as the Hockey Team will do, finish its season, but not as a Tech team. This does not in the least excuse the man who can help support a team and is not willing to; but let us send out no more teams that have not had coaching and practice equal to those of any college.



## NATIONAL.

The chief topic of the past week has been the awful theatre fire in Chicago, which occurred during the Wednesday matinee. In this fire 586 people lost their lives and several hundred are missing or injured. The asbestos curtain failed to work and in the panic many were crushed. This is the worst theatre disaster that ever happened in this country.

President Roosevelt has sent a special message to Congress on the Panama question. The message is an exposure of Colombian greed and bad faith, and a vindication of the honor of the administration in the action which it has taken. The question of whether the canal shall be built or not is declared to be the only issue which Congress has before it for decision.

The President sent to the Senate the nomination of William H. Taft of Ohio to be secretary of war, and of Luke E. Wright of Tennessee to be civil governor of the Philippine Islands.

The Supreme Court has decided that Porto Ricans are not aliens of the United States and that they are entitled to enter the country without obstruction.

The Senate Committee on Military Affairs by a vote of 7 to 2 decided to report favorably the nomination of General Leonard Wood to be major-general.

The United States expedition to Abyssinia under Consul General Skinner has succeeded in negotiating and signing a treaty between the United States and the Empire of Ethiopia, opening for the first time friendly commercial relations between the two countries.

## FOREIGN.

The situation between Japan and Russia has been very critical for several days and war has been imminent, but now the tension seems to have slackened a little, and although both nations are

preparing for war, a peaceful settlement may be obtained. It is thought by many that Russia will not force matters to actual hostilities, but will temporize as usual rather than fight. It is certainly to be hoped that such will be the case.

Colombia's internal situation is becoming threatening and President Marroquin has proposed that it be determined by elections whether the constitution shall be changed, decentralizing Bogota's powers and increasing the powers of municipalities and departmental governments.

A despatch from Kimberly says that considerable alarm is occasioned by the threatening attitude of Hottentots throughout German Southwest Africa. Bands are ravaging the country and plundering Europeans, and there are indications of a general native uprising.

## GENERAL.

The cotton boom seems to have come to a climax during the past week, there being some sensational scenes in the New York market due to the decline and to the subsequent violent fluctuations in price. The selling of fourteen-cent cotton marks an epoch in the speculation over the size of the year's crop.

Immigration at the port of New York has passed all previous records. Last year there landed 619,984 steerage passengers, which is an increase of nearly 75,000 over last year's record. Most of the immigrants come from Southern Europe, Italy leading all the rest. There was, however, a marked increase in the number from Norway, Sweden and Denmark.

The United States Steel Corporation has decided to supply its mills with coal from its own mines, and so the Pittsburg Coal Company, commonly known as the Bituminous Coal Trust, has lost its largest customer. The United States Steel Corporation consumes about 8,500 tons of coal a day, the consumption last year being nearly 3,000,000 tons, representing a value of over \$4,000,000.

Hon. Patrick A. Collins has entered upon his second term as mayor of Boston.

San Miguel County, Colorado, has been declared to be in a state of insurrection and the commander of the military forces at Telluride has established a press censorship and has taken control of both telegraph and telephone lines.



## Calendar.

## THURSDAY, JAN. 7.

- 3.00 P.M. ANNUAL INDOOR ATHLETIC MEET at the Gymnasium. Six events and class relay races, 1904 vs. 1905, 1906 vs. 1907. Admission, twenty-five cents.

## FRIDAY, JAN. 8.

- 8.00 P.M. CHESS TEAM vs. BOSTON CHESS CLUB. Metropolitan League Match at rooms of Boston Chess Club.
- 8.00 P.M. CHEMICAL SOCIETY AND BOYLSTON CHEMICAL CLUB. Joint Meeting. Dr. Richards of Harvard will speak on "Some Recent Theories on the Constitution of Matter." Meet on Walker Steps at 7.15. Tickets, twenty-five cents.

## SATURDAY, JAN. 9.

- 11.00 A.M. LECTURE ON HYGIENE by Dr. White in place of Military Science.
- 6.00 P.M. REGULAR INFORMAL DINNER at the Union. Tickets, twenty-five cents from Mr. Powers.
- 8.00 P.M. BASKET BALL TEAM vs. WORCESTER POLYTECHNIC at Worcester.
- 8.00 P.M. FENCING TEAM vs. HARVARD at Tech Gymnasium. Admission, twenty-five cents.

## MONDAY, JAN. 11.

- 4.30 P.M. MINING ENGINEERING SOCIETY Meeting in Rogers 2. Mr. H. C. Plummer will speak.

## TUESDAY, JAN. 12.

- 8.00 P.M. FRESHMAN BATTALION HOP at Paul Revere Hall. Tickets, one dollar and a half, on sale daily from 1 to 2 P.M. in Rogers Corridor.

## WEDNESDAY, JAN. 13.

- 1.00 P.M. 1905 CLASS MEETING to elect Prom. Committee. Every 1905 man should attend this important meeting. See Posters for Room.
- 2.00 P.M. DEBATE ON ENGLISH TARIFF. Professor Pearson's Course in Argumentation will debate the question: *Resolved*, that Parliament should adopt the Chamberlin tariff policy. This is the last debate in the course. 6 Lowell.

- 7.00 P.M. CLASS OF 1903 REUNION. Informal Dinner at the Union.

## THURSDAY, JAN. 14.

- 4.15 P.M. ALL-ROUND ATHLETIC CONTEST at the Gymnasium. Third event, Thirty-five-Yard Dash. First, 15 points; second, 12; third, 9; fourth, 6; fifth, 3, and sixth, 1.
- 4.15 P.M. FIRST TRIALS FOR VARSITY RELAY TEAM at Gymnasium.

## Senior Photographs.

The Senior Portfolio Committee has selected C. W. Hearn, 394 Boylston Street, as class photographer. Photographs of members of the Senior Class will be made at the following rates:

	First Dozen	Additional Dozens	Fifty Pictures
Carbonette Cabinets	\$3.50	\$2.00	\$8.00
Platinum Cabinets	5.00	3.50	12.50
Twenty-five Carbonettes and twenty-five Platinums	10.00		

All Seniors are earnestly requested by the Portfolio Committee to have their photographs taken AT ONCE by the above photographer, in order that a complete book may be gotten out. It is imperative that the members of the Senior Class have their photographs taken immediately, so that the Portfolio may be issued a reasonable time before graduation.

Hearn is prepared to make appointments for sittings now, and will also hold open especially for Seniors the hour from one till two every day.

## Civil Engineering Society.

The Civil Engineering Society held a meeting last Monday afternoon, at which Mr. Winslow of the Institute spoke on "Municipal Sanitary Engineering." The meeting was very well attended, there being some fifty or sixty men present, and all had the satisfaction of hearing a subject of great importance treated in a simple yet complete manner. The following students have been elected to the Society: C. T. Humphrey, '05; L. G. Blodgett, '06; H. B. Chess, '06; T. M. Gilmer, '06; C. S. Peirce, '06, M. H. Place, '06.

## PROVISIONAL

Schedule of Semi-annual Examinations,  
1904.

Subject to Correction by Bulletin.

Last exercises will be held as follows: Fourth and Third years on Saturday, Jan. 16; Second year on Thursday, Jan. 21; First year on Saturday, Jan. 23.

Year.	Subject.	Examiner.	Hour.
TUESDAY, JAN. 19.			
4	Hist. of Ind. Science	Sedgwick	1.30-4.30 P.M.
4	Hydraulics, I, XI	Porter	9-12 A.M.
4	International Law	Doten	9-12 A.M.
4	Metallurgy	Hofman	9-12 A.M.
4	Metallurgy, Elem.	Hofman	1.30-3.30 P.M.
4	Periodic Currents	Clifford	9-11 A.M.
3	Physics, Heat	Norton	1.30-3.30 P.M.
WEDNESDAY, JAN. 20.			
4	Bact. of W. and S.	Sedgwick	1.30-3.30 P.M.
4	Direct Cur. Generators	Puffer	9-11 A.M.
4	English Literature	Bates	9-11 A.M.
4	Foundations	Spofford	9-11 A.M.
3,4	Political Economy	Dewey Doten	1.30-3.30 P.M.
THURSDAY, JAN. 21.			
4	Applied Mechanics	Lanza	9-12 A.M.
3	Diff. Equations	Osborne Bailey	1.30-4.30 P.M.
4	Organic Preparation	Norris	9-11 A.M.
4	Steam Engineering, I	Peabody	9-11 A.M.
FRIDAY, JAN. 22.			
3	Applied Mechanics	Lanza Sondericker	9-12 A.M.
4	Gas Anal.	Gill	1.30-3 P.M.
4	Metallurgy of Iron	Hofman	9-11 A.M.
4	Oil Testing	Gill	3-4.30 P.M.
SATURDAY, JAN. 23.			
3	Anthropology	Winslow	1.30-3.30 P.M.
4	Comp. Physiology	Stiles	9-12 A.M.
4	Elect. Meas. Inst.	Laws	9-10.30 A.M.
3,4	Theo. of Warship Des.	Hovgaard	9-11 A.M.
3	Industrial Chemistry	Thorpe	1.30-3.30 P.M.
2	Physics	Cross Wendell	9-12 A.M.
4	Physiol. and Hygiene	Stiles	9-11 A.M.
3	Ship Construction	Leland	9-12 A.M.
4	Structures	Swain	9-12 A.M.
3	Surveying	Robbins	9-11 A.M.

Year.	Subject.	Examiner.	Hour.
MONDAY, JAN. 25.			
3	Air, Water & Food An.	Mrs. Richards Woodman	9-12 A.M.
3	Economic Geology	Crosby	9-11 A.M.
2,3	European History	Currier	1.30-3.30 P.M.
4	Hyd. II, III, VI, X, XIII	Porter	9-12 A.M.
4	Industrial Biology	Prescott	9-12 A.M.
4	Proximate Analysis	Gill	9-12 A.M.
3	R. R. Engineering	Allen	9-12 A.M.
4	San. and Hyd. Eng.	Porter	9-12 A.M.
3	Spec. and Work. Draw.	Chandler	9-12 A.M.
2	Spherical Trigonom.	George	9-11 A.M.
3,4	Valve Gears	Miller	9-11 A.M.
TUESDAY, JAN. 26.			
2,3	English Literature	Bates	9-11 A.M.
3,4	Indust. Elect.	R. R. Lawrence	9-11 A.M.
1	Military Science	Baird	1.30-3 P.M.
3	Mineralogy	Warren	1.30-4.30 P.M.
Ent	Solid Geomtry	Tyler	9-11 A.M.
3	Topog. and Field Geol.	Crosby	9-12 A.M.
WEDNESDAY, JAN. 27.			
3	Arch. History	Homer	9-12 A.M.
2	Arch. History	Homer	9-11 A.M.
3	Assaying	Lodge	9-11.30 A.M.
4	Bridge Design	McKibben	9-12 A.M.
2	Determinants	Mason	9-12 A.M.
4	Electro-Chemistry	Goodwin	9-12 A.M.
G	European Civ. and Art.	Sumner	1.30-3.30 A.M.
3,4	European Civ. and Art.	Sumner	1.30-4.30 A.M.
1	Mechanical Drawing	Burton Adams	9-12 A.M.
4	Mining Engineering	Richards	9-12 A.M.
3	Naval Architecture	Peabody	9-11 A.M.
2,3	Organic Chemistry	Norris	9-11 A.M.
4	Steam Eng. II, VI, X, XIII	Peabody	9-11 A.M.
3	Sugar Analysis	Rolfe	1.30-3.30 P.M.
THURSDAY, JAN. 28.			
2	Acoustics	Cross	1.30-3 P.M.
1	Algebra	Woods, etc.	9-12 A.M.
Ent	Algebra A	Tyler	1.30-3.30 P.M.
2	Design	Gardner	1.30-4.30 P.M.
3,4	Financial Hist. of U.S.	Dewey	9-12 A.M.
2	General Geology	Jaggard	9-12 A.M.
4	History of Construction	Chandler	9-11 A.M.
4	Machine Design	Schwamb	9-12 A.M.
3	Micro-Organisms	Winslow	9-11 A.M.
3	Mining Engineering	Richards	9-12 A.M.
4	Naval Architecture	Peabody	9-12 A.M.
4	Org. Chemistry	Mulliken	9.12 A.M.
4	R. R. Engineering	Allen	9.12 A.M.
3	Theoretical Electricity	Clifford	9.11 A.M.

Year.	Subject.	Examiner.	Hour.
FRIDAY, JAN. 29.			
Ent	Algebra B	Tyler	9-11 A.M.
4	Chem. of W. & S.		
	Water Anal.	Mrs. Richards	1.30-3.30 P.M.
3	Comparative Anatomy	Weyssse	1.30-4.30 P.M.
2	Descriptive Geom. II	Adams	1.30-4.30 P.M.
Ent	English	Bates	11 A.M.-1 P.M.
2*	Ent French I	Rambeau	1.30-3.30 P.M.
4	Gen. Theory of Light	Jewett	9-12 A.M.
1,3	German,* II	Rambeau	1.30-3.30 P.M.
3	Perspective	W. H. Lawrence	9-12 A.M.
4	R. R. Management	Allen	9-12 A.M.
3	Thermo-Dynamics	Miller	9-11 A.M.
SATURDAY, JAN. 30.			
1	Anal. Geometry*	Bailey	1.30-4.30 P.M.
1*	Descriptive Geometry I	Adams	1.30-4.30 P.M.
2	Differential Calculus	Osborne	9-12 A.M.
2	Diff. & Int. Calculus	Tyler	9-12 A.M.
4	Fourier's Series	Bailey	9-12 A.M.
1,3	French II*	Rambeau	1.30-3.30 P.M.
2	General Biology	Sedgwick, Prescott	9-12 A.M.
2*	Ent German I	Rambeau	1.30-3.30 P.M.
Ent	History	Currier	11 A.M.-1 P.M.
2*	Physical Measurements	Goodwin	1.30-3.30 P.M.
Ent	Plane Geometry	Tyler	9-11 A.M.
4	Theoret. Biology	Bigelow	9-11 A.M.
3,4	Theoret. Chemistry	Noyes	9-12 A.M.
1	U. S. History*	Currier	9-12 A.M.

All Entrance Conditions are to be made up at this time.

#### SPECIAL EXAMINATIONS. CONFLICTS.

All special examinations granted by the Faculty, and all examinations postponed from September, are to be taken at this time, unless otherwise specifically authorized. Students desiring such examinations (not on this schedule) and those having two examinations on the same day should hand in one of these schedules checked for all their examinations not later than Jan. 14. New assignments will be sent by mail to such students on Saturday, Jan. 16. None can be arranged later.

Reports will be mailed Feb. 6 to students of age to the residence during the term and to the parents or guardians of others. None can be given out verbally. Requests for duplicates will be received until Jan. 20.

\*For students granted special examinations.

For the Faculty Committee on Examinations.

WALTER HUMPHREYS, Registrar.

### The Honor System.

Now that the first term of the collegiate year, 1903-1904, is rapidly drawing to a close, with the midyear examinations only a fortnight ahead of us, the question naturally arises in the minds of all those who have had the matter of the honor system at all in their minds, what is going to be done about it? Are we, or are we not going to take these mid-year examinations under that system?

It is to answer these questions that the committee submits the following statement to the students of the Institute, and especially to the Senior Class, hoping that it will meet with the approval of its members.

Enough has been said on the subject of the honor system itself as practiced in other colleges. We are familiar with the conditions to be met, the advantages to be gained, the difficulties to be overcome, were such a system instituted at Tech. Sufficient time has elapsed to allow every one to make up his mind whether or not the honor system would be desirable here. The matter was not rushed through, purposely to insure a reasonable consideration on the part of all concerned.

It was evident from the first that the honor system could not be adopted unless there was among the Faculty and student body a strong, enthusiastic and practically unanimous sentiment in its favor. The committee is now able to state decisively that such a unanimous sentiment in favor of the honor system does not exist, and furthermore that a considerable number of Seniors as well as several members of the Faculty are strongly opposed to it on the ground that the conditions at Tech are not favorable.

Such being the case it seems hardly necessary to go any farther. For the time at least we are better without the honor system. Should the students of the Institute in a future year wish to take the matter up again we sincerely hope that the data on the subject, soon to be turned over to the records of the Institute Committee, will prove useful.

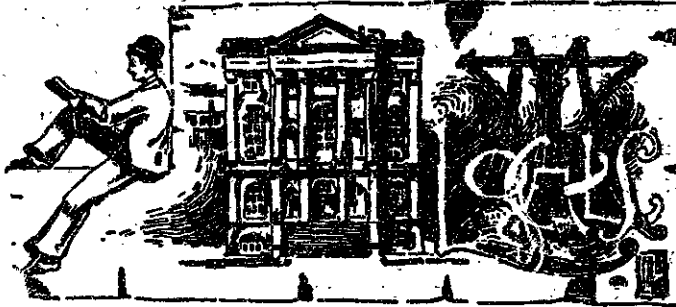
Respectfully submitted,

G. BOUSCAREN, JR.,

For the Committee.

### The Freshman Battalion Hop.

The annual dance given by the Freshman Battalion is to take place Tuesday evening, Jan. 12, at Paul Revere Hall. This dance is not restricted to Freshmen only, but all men in the Institute are cordially invited to be present. The promoters of this affair have worked hard to make it a success and it is to be sincerely hoped that all will take a lively interest in it. Just such things as this are very badly needed at Tech. There is not enough social life here and the only way of bringing about a reform is to encourage such things as this. So let all get their girl and a ticket, and be on hand next Tuesday evening.



G. B. Perkins has been granted leave of absence from The Tech Board.

Attention is called to an assessment of fifty cents levied last term on the Class of 1905. Collectors in the various courses will receive payments.

The Art Editors of *Technique* request the man who has been sending in drawings marked with an equilateral triangle inscribed in another to send them his name and address as soon as possible.

Dean Burton has presented the Civil Engineering Society with a large and handsome photograph of last year's Summer School Class in Surveying. The picture has been hung at the Tech Union.

A joint meeting of the Chemical Society with the Boylston Chemical Club of Harvard will be held on Friday evening, Jan. 8, at the Harvard Union. The Society will leave Walker steps in a body at 7.15. Dr. Richards will speak on "Some Recent Theories on the Constitution of Matter." Tickets, 25 cents.

A large number of Seniors celebrated the arrival of the New Year in the traditional manner. The men met at Keith's, where seats had been engaged, in a body. During the performance a few yells were given. After the performance the men went to the Union, sang some songs, and then adjourned to Rogers steps. Here they ushered in the New Year with cheering and yells.

At the Sophomore Class meeting held Monday, Jan. 4, the matter of the *Technique* Electoral Board was discussed. It was decided to leave the manner of election to the Executive Committee, and an early report is expected. The Class cane has now been selected, as well as the pipe. The Committee on Baseball Numerals reported Major Briggs as unwilling to take any consideration of the matter, and advised that the remainder of the Council be interviewed.



During the week of Jan. 11. Mr. Ben Greet's company, representing the Elizabethan Stage Society of London, will play Shakspeare's *Twelfth Night*. Among the comedies this represents, in some respects, Shakspeare's best work. Of the three that are usually supposed to be products of his maturity in comedy writing, *As You Like It*, *Much Ado*, and *Twelfth Night*, this one is certainly the best to see played in the Elizabethan manner; for the text, exceptionally pure among Shakspeare's plays, is very simple and much more intelligible to our modern ears than the brilliant punning and word play of *Much Ado*, and the scene of *Twelfth Night* requires none of our modern stage appliances that make such a beautiful background for the woodland scenes of *As You Like It*.

A performance in the Elizabethan manner has many points of special interest. The absence of entractes, necessitated by shifting scenery, gives time for playing the whole comedy just as Shakspeare wrote it. The absence of scenery and the fact that the players are upon a platform projected right into the audience centre attention on the acting and bring the playgoer into much more intimate communion with the situations of the play and the power of the actors than can be true of any performance behind a proscenium arch, that has, as the phrase is, to be forced to the audience "over the footlights." The effectiveness of Mr. Greet's company has been proved by the performances of *Everyman*, and much more by the two outdoor performances of *As You Like It* and *The Comedy of Errors* in Cambridge last spring.

#### Hockey Association.

At a meeting of the Hockey Association held last Saturday, it was decided to give up the attempt of having a Tech Hockey Team this year, owing to the fact that it would be too expensive to make a rink, as the funds of the association are rather low. It was resolved, however, to get up a team to play the scheduled games, but under another name than a Tech Hockey Team. By so doing it is thought a good start will be made for a Tech Team next year.

### The Germ Theory of Disease.

Some one has said that the great French bacteriologist, Louis Pasteur, found man surrounded by a host of invisible and deadly foes and that by his discoveries he transformed them into friends and servants; and there is much truth in the figure. Up to the middle of the last century the epidemic plague and fever were maladies whose origin was shrouded in the deepest mystery. Remedial measures were almost hopeless without knowledge of the nature of the evil to be attacked. In 1865 Pasteur identified the cause of a fatal disease of silkworms, which threatened the prosperity of a great industry in certain provinces of France, with minute living germs or bacteria, which swarmed in the bodies of the diseased worms. At once a new field of research lay fallow for cultivation. Splenic fever in cattle and in men was shown to be due to a similar cause, and in quick succession were discovered the specific microbes of tuberculosis, cholera, diphtheria, tetanus and typhoid fever.

Then there came a lull in great advances along this line. Efforts to find bacteria which could cause the acute eruptive diseases proved unavailing. Only within the last five years certain English and Italian observers in the study of malaria introduced a second epoch of progress. They proved that the organism which causes malaria was carried from person to person by the bite of a certain mosquito in whose body it undergoes part of its life changes. This microbe is of a totally different type from those with which Pasteur worked, belonging to the lowest group of animals, the Protozoa, while the Bacteria are plants. The Protozoa must be studied by special methods and as soon as the attention of the scientific world was drawn to them many puzzling problems seemed near solution. Dr. W. T. Councilman of the Harvard Medical School announced last spring the discovery of a Protozoön in small-pox; a party of surgeons of the U. S. Marine Hospital service have described what they believe to be the organism which causes yellow fever; and less than a month ago Dr. F. B. Mallory of the Harvard Medical School described a Protozoön found in scarlet fever. Much remains to be done in the study of these animal parasites; but everywhere experts are attacking the problem, foremost among

them being G. N. Calkins, M. I. T., '90, Course IX., Professor of Zoölogy at Columbia.

Practically the study of the micro-organisms of disease has helped us in two ways. It has taught us first how to destroy these microbes before they can enter the body at all. Typhoid fever and cholera may thus be prevented by supervision of water and milk supplies and by the removal and disinfection of excreta. Tuberculosis may be checked by properly caring for the sputum of tuberculous patients. Malaria is controlled by the extermination of mosquitoes.

In the second place the vital resistance of the body may be strengthened so that the germs which have already entered will find there an unfavorable environment and will quickly perish. The cells of the body may produce specific antidotes which neutralize the poisons of the bacteria and destroy the bacteria themselves, and this occurs in every case when recovery from an infectious disease is followed by immunity against that disease for a longer or shorter period. By introducing weakened cultures of the bacteria themselves, a small portion of their poisons or toxins, an artificial immunity may be produced without danger. This is what occurs in vaccination, and in the case of diphtheria the process is carried one step farther. Diphtheria bacilli are cultivated in a broth in which they secrete their toxins. The latter, in gradually increasing doses, are injected into the veins of a horse until his blood becomes richly charged with the antidote or antitoxin. This blood is then drawn off and injected into the veins of children strangling in the throes of diphtheria; it does its beneficent work and saves thousands of lives which would otherwise be lost. Here indeed it seems that the very enemy himself has been made captive and forced to undo the evil he has caused.

As a result of the researches of Pasteur and his followers, typhoid fever, cholera, diphtheria, yellow fever, malaria and other less familiar maladies are preventable diseases which we shall wholly abolish when we put in practice the theoretical knowledge we possess. New possibilities are opening before us every year and it is not unreasonable to hope that some day the infections may one and all be banished from the earth.

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See page iii

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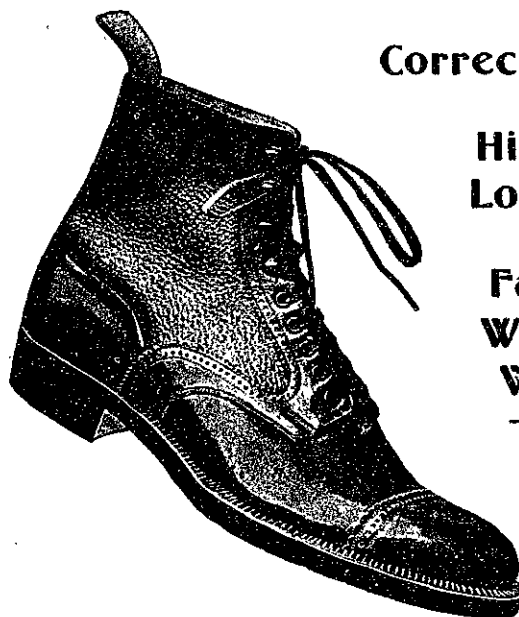
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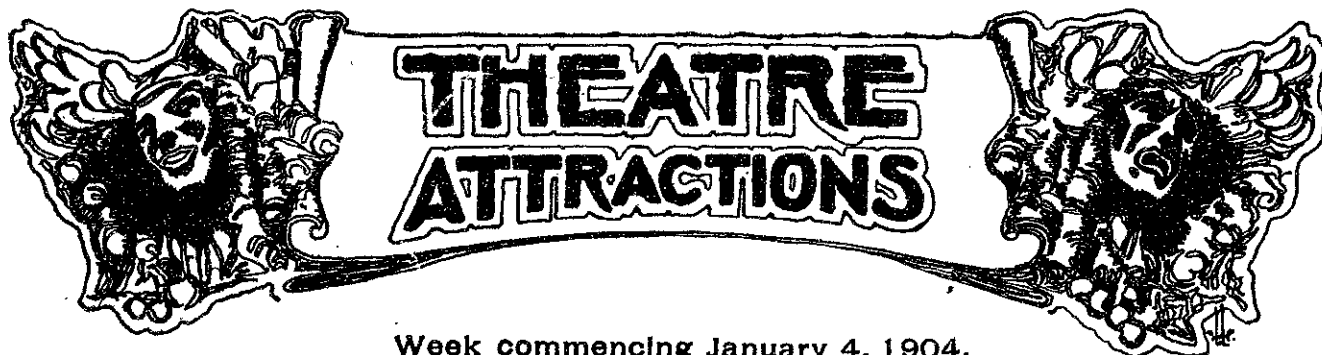


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Week commencing January 4, 1904.

**Tremont Theatre.**—De Wolf Hopper and his splendid company in the greatest of his musical successes, "Mr. Pickwick." More charming music and pretty girls than last year. Matinees Wednesday and Saturday at 2.

**Colonial Theatre.**—Second and last week of Mr. Richard Mansfield in "Old Heidelberg." This play deals with student life at one of Germany's greatest universities. Next week Fritz Scheff in "Babette."

**Majestic Theatre.**—Limited engagement of Mildred Holland in "The Triumph of an Empress." The story of the play deals with the incidents in the life of Catherine II. of Russia, or better known as Catherine the Great, the character being played by Miss Holland.

**Hollis Street Theatre.**—What is promised to be the largest and best production in which Klaw & Erlanger have yet presented the Rogers Brothers, John J. McNally's latest, "The Rogers Brothers in London,"

will be staged at this playhouse for a limited engagement.

**Globe Theatre.**—Last week but one of Weber & Field's Big Musical Comedy success, "An English Daisy," with an all star cast, including Charles A. Bigelow and Christie MacDonald.

**Park Theatre.**—William Faversham in a new comedy, "Mr. Sheridan," will be seen during this week only at this playhouse. Next week, Fay Davis in "Whitewashing Julia," supported by members of the Empire Theatre Company.

**Columbia Theatre.**—Last week of Evans & Hopper in the funniest of all plays, "There and Back." First appearance of the famous pantomimist and danseuse, La Belle Guerrero. Next week, Nance O'Neil.

**Castle Square Theatre.**—"Garrett O'Magh" is being presented this week. Next week, "Alice of Old Vincennes."

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